Serial No. 10/085,585 Docket No. H07-137800M/NHK

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification, page 3 line 21 - page 4 line 17, to read as follows:

As described above, by the rotation and axial movement of the hammer, the hammer claw of the hammer was caused to repeatedly impinge on the anvil claw of the anvil, thereby imparting the impact torque to the anvil. However, in the case of driving the screw into a hard wooden material or in the case of fastening a bolt to an iron plate, the rebounding force, produced by the anvil upon impingement, was very large, so that the hammer was moved back until it impinged on the stopper provided at the spindle. Therefore, each time the hammer impinged on the stopper, there was exerted a force to instantaneously lock (press) the rotating spindle. Therefore, even when the locking effect acted on the spindle, a large load (rotational impact force) was exerted on the gear portions of the speed reduction mechanism portion, provided between the motor and the spindle, since the pinion of the motor was rotating, and as a result there was encountered a problem that the speed reduction mechanism portion and the housing, holding this speed reduction mechanism portion, were damaged. And besides, a locking effect acted on the spindle when the hammer claw impinged on the anvil claw, and therefore there was encountered a problem that he the speed reduction mechanism portion and the housing, holding this speed reduction mechanism portion, were damaged.

Please amend the specification, page 9 line 15 - page 10 line 7, to read as follows:

With this impact damping mechanism, when the hammer 15 moves toward the planetary gears 8 along the cam grooves 15a and 14a, and impinges on the stopper 22, the pinion 14 4 is always rotating, but the claws 6b of the fixed gear 6 compress the impact damping



Serial No. 10/085,585 Docket No. H07-137800M/NHK

Cent

members 5a and 5b, and therefore the impact force in the rotational direction can be damped by the very slight rotation of the fixed gear 6a. In this construction, the impact damping members 5a and 5b are provided in a gap between the bearing 11, which is the rear bearing for the spindle 14, and the housing 1, and therefore the damping mechanism can be provided effectively without increasing the overall length of the tool. And besides, the impact damping members 5a and 5b are arranged in the direction of the rotational load, and are provided on opposite sides of the projection 6b, respectively, and therefore can meet the normal and reverse rotation of the motor 2 and the vibration of the load. The number of the projections 6b is not limited to two as in the illustrated example, but at least one projection need only to be provided.

Please amend the specification, page 7 line 16 - page 9 line 1, to read as follows:

A trigger switch 3 is operated to supply electric power to the motor 2 to drive this motor 2 for

between the hammer 5 and the planetary gears 8 of the spindle 14, strikes the anvil claw 17b

of the anvil 17 as a result of the rotation, thereby producing a pulse-like impact which is

imparted to a screw, a nut or the like to be tightened by the end tool 20. After the striking

rotation, and then the rotational power of this motor 2 is transmitted to the planetary gears 8 through the pinion 4 connected to the distal end of the motor 2, and the rotational power of the pinion 4 is transmitted to the spindle 14 through the needle pins 9 by the meshing engagement of the planetary gears 8 with the fixed gear 6, and the rotational force of the spindle 14 is transmitted to the hammer 15 through the steel balls 16 each disposed between the cam groove 14a of the spindle 14 and a cam groove 15a of the hammer 15, and the hammer claw 15b of the hammer 15, urged forward (toward the bit) by the spring 12 provided

Serial No. 10/085,585

Docket No. H07-137800M/NHK

cont

A3

operation, the striking energy of the hammer 15 decreases, and the torque of the anvil 17 decreases, whereupon the hammer 15 is rebounds from the anvil 17, and therefore the hammer 15 moves toward the planetary gears 8 along the cam grooves 15a and 14a. Before the hammer 15 impinges on a stopper 22, the hammer 15 is again moved back along the cam grooves 15a and 14a toward the anvil 17 by the compressive force of the spring 12, and the hammer 15 is accelerated by the rotation of the spindle 14 through the steel balls 16 each disposed between the cam groove 14a of the spindle 14 and the cam groove 15a of the hammer 15. During the reciprocal movement of the hammer 15 toward the stopper 22 along the cam grooves 14a and 15a, the spindle 14 continues to rotate, and therefore in the case where the hammer claw 15b of the hammer 15 moves past the anvil claw 17b of the anvil 17, and again strikes the anvil claw 17b, the hammer 15, when rotated through 180°, strikes the anvil 17. Thus, the anvil 17 is repeatedly struck by the axial movement and rotation of the hammer 15, and by doing so, the screw or the like is tightened while continuously imparting the impact torque thereto.

Please amend the specification, page 9 line 2 - page 9 line 14, to read as follows:

The impact damping mechanism is mounted on the thus operating impact tool, and as shown in Fig. 2, this impact damping mechanism comprises the fixed gear support jig 7b 7a, which has the rotation stoppers 25a the direction of rotation of which is fixed within the housing 1, and has a circular outer peripheral portion, and has its center held in a predetermined position relative to the housing 1, the fixed gear 6a, which is held within an inner periphery of the fixed gear support jig 7a so as to rotate very slightly, with its center held in a predetermined position, and impact damping members 5a and 5b which are inserted in holes 7b, formed in

Serial No. 10/085,585

Docket No. H07-137800M/NHK

Cont A H

the fixed gear support jig 7a, and engage projections 6b formed on a side surface of the fixed gear 6a.

Please amend the specification, page 1 line 5 - page 2 line 8, to read as follows:

A conventional power tool will be described with reference to Fig. 8. Fig. 8 is a partly-omitted, vertical cross-sectional, side-elevational view showing an impact tool for imparting a rotational force and a striking force to an end tool 20 such as a bit. Generally, a motor 2, serving as a drive source, a speed reduction mechanism portion 8) for transmitting a rotational power of a pinion 4 which is an output shaft of the motor 2, a spindle 14 for transmitting the rotational power from the speed reduction mechanism portion 8, a hammer 15, which is rotatable and movable in a direction of the axis of rotation through steel balls 16 inserted in cam grooves 14a formed in the spindle 14, an anvil 17, having anvil claws 17b which are struck by a plurality of hammer claws 15b, provided at the hammer 15, to be rotated, the end tool 20, releasably attached to the anvil 17, and a spring 12, normally urging the hammer 15 toward the anvil 17, are received within a housing 1 and a casing 10 which form a impact tool body. The speed reduction mechanism portion includes a fixed gear support jig 7, which has rotation stoppers, and is supported within the housing 1, a fixed gear 6, planetary gears 8, and the spindle 14, and further includes needle pins 9 serving as rotation shafts for the planetary gears 8, and the gears 8 and the needle pins 9 form part of the spindle 14. One end the spindle 14 is borne by a bearing 11, and the other end thereof is rotatably supported in a central hole 17a in the anvil 17 rotatably supported by a metal bearing 18.

